

IN THE CLAIMS

1-28. (Canceled)

29. (Currently Amended) A watermark embedding unit for embedding watermark information containing information of a user identification number into a predetermined content to prevent collusion attack, comprising:

means for outputting at least one simplex codeword selected from a plurality of simplex codewords constructing a simplex code, in correspondence with an inputted user identification number, wherein, when a number of the plurality of simplex codewords is N and a codelength of the simplex codewords is N-1, a correlation value between simplex codewords is  $-1/(N-1)$ ; and

means for embedding the outputted at least one simplex codeword as ~~first~~-watermark information into the content as an embedding target[.,]

~~wherein a Hamming distance between the outputted codeword and a second outputted codeword is proportional to a distance between the first watermark information and a second watermark information.~~

30. (Currently Amended) A watermark detecting unit for detecting watermark information containing information of a user identification number from a predetermined content, comprising:

means for generating a plurality of codewords based on an N-dimensional Hadamard matrix by using a simplex code, wherein, when a codelength of the codewords is N-1 and a number of the codewords is N, a correlation value between codewords is  $-1/(N-1)$ ;

means for outputting ~~at least one a~~ codeword selected from ~~a the~~ plurality of codewords constructing ~~a the~~ simplex code, in correspondence with an inputted user identification number;

means for obtaining a correlation value between the outputted codeword and the content; and

means for identifying, as a colluder, an identification number corresponding to a codeword having a largest correlation value obtained by the means for obtaining a correlation value; and

means for determining presence or absence of a codeword corresponding to the inputted user identification number in the content, based on the correlation value[[,]]

~~wherein a Hamming distance between the outputted codeword and a second outputted codeword is proportional to a distance between the first watermark information and a second watermark information.~~

31. (Currently Amended) A watermark detecting unit for detecting watermark information containing information of a user identification number from a predetermined content, comprising:

means for outputting a plurality of codewords which respectively correspond to a plurality of previously registered user identification numbers and which construct a simplex code;

means for obtaining a correlation value between each of the outputted codewords and the content; and

means for identifying, as a colluder, an identification number corresponding to a codeword having a largest correlation value obtained by the means for obtaining a correlation value; and

means for determining presence or absence of watermark information, based on a norm calculated, regarding each obtained correlation value as a vector, and for specifying a the colluder based on the correlation value if the presence of watermark information is determined[[,]]

~~wherein a Hamming distance between the outputted codeword and a second outputted codeword is proportional to a distance between the first watermark information and a second watermark information.~~

32. (Canceled)